SIMPLE CALENDAR MAY COME FROM PAPAL CONCLAVE

Cardinal Mercier to Preside Over Deliberations That May Be as Important as Any Held in Ages Past

By STERLING HEILIG.

Special Correspondence to THE NEW YORK HERALD.

PARIS, Dec. 24.

IF all goes as is probable or possible, this is the last New Year's Day that will ever come on a Sunday! Or (for that matter) on a Saturday, or Friday, Thursday, Wednesday, or Tuesday—because New Year's Day will always come on a Monday!

It will be due to governmental action in the various countries, similar to that which adopted the present calendar in use, after a conference of astronomers called by Pope Gregory XIII., in 1582—if the Governments of to-day are as prompt to act as were those old fellows in favor of a needed improvement.

Vatican Calls Conference of Astronomers for Reform of Calendar

As a fact, the news is official from Rome that the Vatican has decided to call such a conference of astronomers for a reform of the calendar and the fixing of Easter and other movable feasts to definite dates.

The necessary preliminary arrangements are under way, and Cardinal Mercier has been appointed to preside over the conference, whose meetings are to begin next April.

Its main purpose is to reform the existing calendar on a scientific basis which shall insure that the same dates shall always fall on the same week days, and put an end to the irrational dependence of Easter on an imaginary Paschal Moon, by making it and other holidays which depend on it a fixed feast.

It will give the year proper 364 days of exactly 52 weeks, divided into four quarters of 91 days (or exactly 13 weeks) each—each quarter having, each exactly like the others, two 30 day months and one 31 day month. Each year will be preceded by an extraordinary novelty—a holiday with a name, a nameless day of rest and recreation which will be neither day of the month nor of the week!

Christmas Day will always fall on a Monday. Easter Day will be fixed to April 14 every year. It will always be a Sunday; and the other now movable church festivals associated with it will become automatically fixed dates.

The Year 1923 Sees New Year's on Monday

The year 1923, which happens in our present system to commence on a Monday, will be peculiarly suitable to make the change. Each subsequent year, in the new system would begin on a Monday, without effort or confusion—as also would every quarter, to be all of the same length, each containing exactly thirteen weeks.

With a calendar reformed on these lines, there would really be no need for yearly almanacs for ordinary folks (apart from year-books).

Schoolchildren will learn quite easily all that is needed for locating oneself in the year; and there need be no puzzling of the brain or turning up of almanacs to know when holidays, &c., will occur in any year.

It is only right to mention children. Long ago, in the previous reform of the calendar, they were April-fooled and buncoed on a gigantic scale. Now, as they are going to get back a bit of their own, the pitiful story may be appropriately referred to.

In the old days, before the change, Easter (as everybody does not know) was a double header—Easter was also New Year's, with the old, fixed custom of handsome and substantial gifts to all children.

What a howl the children of the Christian world set up, between the years 1565 and 1582, when, without warning, New Year's ceased to come the day before Easter!

The story of this juvenile April-fooling is quite authentic. In fact, it started the April-fool game, as will be seen. It goes back to the sun and moon. The sun, first.

Civilization was long perfecting a calendar to keep up with the sun. The apparent solar eclipse turning slowly and the equinoxes not being fixed points, the civil year of Romulus had got so far ahead of the weather that Julius Cæsar had to add eighty-five days to the year 45 B. C. in order to bring the commencement of spring back to the vernal equinox.

Sixteen hundred years later, Pope Gregory XIII. had to turn the clock back again. This time the equinox was arriving ten days ahead of the calendar; so the conference of learned men which he assembled cut eleven days out of the year 1582, by shortening the month of September—the 3d of that month being followed by the 14th.

It Was the Moon of April That Made the Trouble

The church had always been running a lunar year to determine religious holidays. It does so yet—whereby Easter comes irregularly. It is one of the things which the coming conference is called to regulate.

An irregular Easter was all right enough in those easygoing times. There was nothing to trouble the farmer's barley sowing, so long as the year itself began on a fixed date. Romulus had made the year begin on March 1—Cæsar changed it to January 1. Charlemagne shifted it back to March 1. It was all right either way. Between the first day of the year and the spring equinox the number of days had always been constant under each great law giver's system—except, always, for the slowly increasing discrepancy of the sun, which Gregory arranged by cutting out those eleven days.

But when, in the twelfth century, the Christian world transferred New Year's Day from Charlemagne's March 1 to Holy Saturday, the lunar year began to get in its fine work. Holy Saturday, then as now, might fall anywhere between March 24 and April 24—and New Year's Day was no longer a fixed date for centuries.

In England, where they came to fix their own particular English New Year's on March 15 (but in England only), the confusion was so much less that the modern change to January 1 was not made until the year 1752; but in France the mixup had become so troublesome that Charles IX., eighteen years before Pope Gregory's conference, decreed that New Year's Day should fall on January 1 in France—as in the days of Julius Cæsar, when there was neither Christmas nor Easter!

On Easter Day of the year 1565, the kids set up a plaintive inquiry. Where were their habitual and customary New Year's gifts?

January 1 (you see) had passed unnoticed over their innocent little heads, a merely technical date, even for their parents. And now, on Easter day, the children learned, all inexplicable, that yesterday had not been New Year's!

"New Year's is past, long, long ago!" their parents explained. "New Year's was last January!"

"Yes," the children answered, "but our presents?"

"You had them on Christmas," said the parents.

But the children knew that they were Christmas gifts.

Where were the handsome and substantial New Year's presents which they always got on the Saturday night before Easter morning? Alas, they had got lost in the shuffle!

For centuries, you see, every one had received real, worthwhile New Year's presents (relic of the antique Roman world) between March 24 and April 24—on Holy Saturday, the only New Year's that existed. Even the English March 15 was so far from Christmas that there could be no possible confusion with Christmas presents. These New Year's sweeteners had been, immemorially, of prime importance, not only to children, but to all house servants, clerks, family dependents and feudal retainers.

Now, suddenly, by some juggling with the calendar, their old familiar New Year's of Easter time had simply disappeared—along with its valuables. Next winter there would be the date—on January 1—and a vague kind of promise to make good on that new New Year's; but January 1 was far away—and any child could see that its gifts would merge with those of Christmas!

There Will Be a Nameless Holiday Preceding New Year's

Now listen, you children, you will get a little of your own back in the new change of the calendar. The Nameless Holiday to precede New Year's will be a little bit of all right for you.

Observe that the Nameless Holiday will not be either a day of December or of January! It will not be a day of the week either! It will not make us a day older—time will simply stand still. The Nameless Holiday will just come in between Sunday (which will always be the last day of the old year) and Monday (which will always be the first day of the new year). So, then, here you have three perfectly good holidays all in a bunch together—Sunday, Nameless and New Year's!

Another bit of all to the good will be the fact that Christmas Day, in this reform of the calendar, will always fall (like New Year's) on a Monday. Here you have another pair of holidays which nobody can take from you.

A third little bit of goodness-gracious will be found in the use made of the extra day of leap year. Now, it is the 29th of February—just another day to work or go to school. It won't be so when the calendar is straightened out. It, too, will be a Nameless Holiday, stuck in between the last day of June and the first day of July. Time will stand still for it, too. No employer will be able to make any use of it. He would not know how to credit or debit it on his books, because it will be neither June nor July, nor a Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, or a Saturday either! And the reason for it will be this—to give every year exactly fifty-two weeks, every quarter exactly thirteen weeks, make every month begin and end always on a fixed day, and every holiday become a fixed day of the week and month!

Will the various countries adopt it?

The authorities of the Anglican Church have recently shown a desire to accept a rational reform of the calendar which will provide for fixed instead of movable holidays; and now that the Church of Rome has inaugurated a definite move in that direction, there is reason to expect a successful issue to the work of the coming conference.

In all probability the Vatican will invite the other churches interested to be represented at the conference—including the Greek Orthodox, which still adheres to the Julian calendar and is now thirteen days behind the rest of civilization.

So the work can go rapidly. There is reason for a prompt decision. If an agreement among Governments can be reached for the year 1923 a considerable advantage will be gained—because the year 1923 commences naturally on a Monday. So every subsequent New Year's can be a Monday without any change of habits. And so we will fall into the new regularity as easy as off a log.

We won't need any almanacs.

New Year's day in Belgium in 1496, an old painting. The budding foliage in the background is explained by New Year's under that calendar falling between March 24 and April 24.

Elizabeth, Duchess of Guise, who tried to save the New Year gift custom for the children of France when they lost it by a calendar change several centuries ago.

How the Children Were Cheated of Gifts by One Calendar Change—Many Interesting Reforms Devised

By JOHN ALLAN WYETH, M. D., LL. D.

NOT less important than the world-wide adoption of the metric system for weights, quantities, distances, &c., is the adoption of a uniform standard for the measure of time.

Thousands of years before the momentous discovery of Copernicus (1520 A. D.) that the earth revolved around the sun, confirmed as a scientific demonstration by the telescope of Galileo in 1610, man had taxed his ingenuity to devise a calendar or measure of time by which the dates of important events might be registered and the ordinary affairs of life systematically conducted.

The Egyptian calendar of 12 months of 30 days lost approximately 4¼ days each year, while the Greeks, with their 12 months of alternating 30 and 29 days, failed to account for 11¼ days. The first Roman calendar had 10 months, with 31 days allotted to the first, third, fifth and eighth and 30 days to the remainder, with 61 days omitted from the reckoning. The Chinese divided their year into 12 months of alternating 31 and 30 days, adding an extra month every 30 years to make up for lost time. The Hebrew calendar was a movable duplex of 353-55 and 383-85 days.

The early peoples of Mexico and Yucatan had a solar year of 18 periods of 20 days and an astrological table of 13 periods of 20 days.

The Julian Calendar One Of the Modern Improvements

Julius Cæsar, with the aid of a Greek astronomer, corrected much of the confusion of these earlier methods of measuring time by establishing a year of 365¼ days, divided into 12 months, and in 1582 A. D. Pope Gregory XIII., with insignificant modifications, introduced our present system, known as the "Gregorian calendar," with some months of 31 days, others of 30 and one of 28 or 29 days. Illustrative of the complexities of this calendar, the following rule is given for finding the day of the week for any given date:

Take the last two figures of the year, add one-fourth of these, neglecting the remainder. To the sum thus obtained add for the various months as follows: January and October, 1; May, 2; August, 3; February March and November, 4; June, 5; September and December, 6; April and July, 0. In case of leap year: January, 0; February, 3. Add the figures representing the day of the month and divide this sum by 7. The remainder gives the number of the day of the week.

Example: What day of the week was August 28, 1911?

11+2=13
For August= 3
Date 28
—
Divide by 7)44(6
42
—
Remainder 2
or second day of the week.

Compare this puzzling complication with the Bennett calendar, in which the days of the week, month or year remain unchanged forever.

Bennett's Simplified Calendar Is the One Indorsed

On June 7, 1911, Mr. Charles Wilkes Bennett of Coldwater, Mich., submitted to the editor of *Science*, in New York city, a "simplified calendar," in which the year was divided into 13 months of 28 days each. The additional month was called "Sol" (the month of most sunshine in our zone) and was placed between June and July. Publication was declined. In 1919 my attention was called to this subject and I am convinced that the Bennett calendar is a satisfactory solution of a most important and heretofore vexatious problem.

While the period required for the rotation of the earth on its axis has been divided into twenty-four hours (or one day), the time needed for the earth to complete its revolution around the sun is 365 days 5 hours 48 minutes and 46 seconds. Since there are only 364 days in 13 months of 28 days each, there is one extra day in every year in the Bennett calendar, and every four years (or leap year) an additional day to be disposed of.

This may be done as follows: The last day of 1921 comes on Saturday. Sunday of 1922 will be called "New Year Day" and not counted in the calendar, which begins with Monday, January 1, 1922.

By the Bennett calendar the month of January, 1922, and every month for all time would be as follows:

Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28

Every fourth year the day immediately following February 28 will be "Leap Year Day," a holiday, and not counted in the calendar.

THE MONTGOMERY CALENDAR.

ANOTHER "improved" calendar is one suggested by C. A. Montgomery of New York. It is called "The Globe Perpetual," and beginning with Sunday, January 1, the years will all end with Saturday, December 31, being divided into four equal quarters of 13 weeks (91 days) each, the quarter to begin on Sunday and end on Saturday.

The 365th day is placed by itself as New Year's. Leap Year Day, or Fourth Year Day, is placed between Saturday, June 31, and Sunday, July 1, as an *extra day*, not included in either week or month.

Do Our Animals Develop A Real Civilization?

DO animals, the New York alley cat, for instance, have a civilization of their own? Modern students of our human society tell us that what we call culture or civilization is nothing but the turning into institutions of the habits that man has acquired in his contact with his environment. Man, like the animals, they say, is a habit forming creature. He keeps the habits which have been useful to him, forms these habits into a conglomeration of institutions and calls the result civilization.

From this point of view one might fairly ask, Do the higher habit forming animals have a civilization of their own? It would seem so. And these animal civilizations seem to get on surprisingly well under difficult circumstances. The real test of a civilization would, no doubt, be its ability to adapt itself to a changed and more difficult environment. Under this test many empires of man have gone down, and, conversely, many animals have successfully endured. Take the alley cats of New York as an example. They came originally out of wild life, in the Himalayas, in Egypt and elsewhere, and they have been considerably crossed with strains of the European wildcat. They came into Rome at some time, not long before the Imperial period, and they have been exposed to considerable variations of man's civilization.

When the European white man settled America the cat came with him. Both throve mightily in their new environment. Cat and man appeared in great numbers. Periodically, as their numbers increased, certain members of both races went astray or were thrust aside by the ruthless march of progress. The result was that neither of these weeded out individuals could fit into the main scheme or get the proper economic support from it. They were out of jobs. And so we had the human phenomena known as criminality, vagrancy and unemployment, and the feline phenomenon known as the stray or alley cat.

The New York alley cat is a phenomenon in more ways than one. Coming out of Asiatic, European and African wild life, transplanted in a new clime and deprived of his job as domestic mouser and pet, he has become a shrewd feline vagabond, a velvet footed, free lance in the sub-human slums. He has met and mastered most of the problems of his new environment and has learned a great many tricks about getting along in backyards and alleys. Instead of the Himalayas, he has the backyard fence, and instead of his native wooded wilds, a forest of ash cans and iron gratings.

He has had to unlearn many of the habits of his period of wild life, as well as those of his domestic period, and has taken on the habits that make him fit to survive in the hazardous life of the back alley. Habits of night life, it seems, have always been an institution among cats, and these they have retained in their alley habitat, as their nightly festivals in all parts of New York testify. The cat has also retained his habit of preying on rodents and birds, but during his domestic period he learned that it is best not to attack man, and this he has remembered. He has forgotten his habit of meowling for the morning's cream and salmon. Instead he has taken on the garbage can habit and numerous others, all of which go to make up the typical backyard feline culture. In this new slum life the cat has done very well. He has reproduced his kind in great numbers and held his own against all comers.

In a measure, the alley cat has outstripped his human analogue, the social outcast and the vagrant. He has got along without charity or other organized assistance, bringing his young to maturity as full fledged and capable feline specimens. So far, so good. But there is one fly in the stray cat's ointment. What will he do if man turns against him and decides upon his extermination? None of the things that he has learned in the alley or in the wilds will teach him how to meet that eventuality.

The only thing that would make the cat a fit competitor with man in such a struggle would be some way of acquiring the human trick of transmitting to the incoming generation the habits which the past has learned. That means a language, books, a printing press, an educational system. Without these things each generation of backyard cats must begin just where the last started and not where the last left off, as is the case with the human species. Here is a problem for some feline genius or some human friend of the race of cats: How to set up a scheme of feline educational institutions based on the useful habits which the race has acquired? Until the problem is solved we humans may pride ourselves that our civilization is higher, or at least wider in range, than that of the backyard cat.

Mushrooms Amazingly Powerful

NOT so very long ago the boys and girls of a certain public school were surprised to find that the asphalt of their playground was bulging and cracking. Next day they saw that the asphalt had been lifted bodily above the ground on which it rested. It was as if there were some giant beneath the playground, like the giant in the fable who is said to have caused an eruption of the volcano at the bottom of which he lay whenever he turned over in his sleep.

But no giant had caused the upheaval of this playground, nor had there been an earthquake. The upheaval had been caused by mushrooms. When this happened people remembered that they had seen other upheavals of a similar character in that part of the country. Pavements had been raised and roadways strong enough to bear the heaviest traffic had had their surfaces thrust above their surroundings. In every case the disturbances had been caused by mushrooms.

Ealing, now one of London's busy suburbs, not so many years ago was a rural district, where mushrooms were cultivated. But times changed, the fields were built upon, and everybody forgot the mushrooms. But the mushrooms were not dead. The life-germs from which the mushrooms spring remained active down in the soil.

How is a mushroom, so fragile and feeble, able to force its way through concrete and asphalt? How is it able to carry up with it huge stones which have been cemented down? How is it that a mushroom can split a stout brick wall? The mushrooms in a garden at Beckenham did this some little time ago, pushing out a block of brickwork and mortar weighing 170 pounds, though the mushrooms themselves weighed less than three and one-half pounds. It is the result of one of the wonderful forces of nature which men can examine and explain and yet cannot cease to marvel at. By its gentle and continuous pressure, the growing and expanding mushroom can lift weights big enough to crush things a thousand times as strong as itself

Around the World in Day Now Planned

Continued from First Page.

the average liner or train. A corridor, running from the crew's quarters to the passengers' cabin, is a further insurance of safety.

The ship will be equipped with four turbo-aspirators (system Rateau), operated separately of the lower plant which propels the vessel. When the pilot desires to rise these aspirators, set in motion for little more than a minute, make a complete vacuum in the inner of the three chambers, and a lesser vacuum in the other two. After rising to the height desired, this being controlled by the extent of the vacuum in the two outer chambers, the pilot will start his propellers and fly off in the direction he chooses.

As long as the ship is to remain in the air the aspirators will maintain a vacuum, but when the pilot desires to descend air will be let into chambers. The ship in descending can be controlled by means of the aspirators.

Once the ship is on the ground it requires no hangar. Its weight will hold it in face of the most severe storm, for its interior contains no gas. From this point of view its practicability for military work is unlimited. Because of the lightness of its construction and its great displacement in the air it can rise to heights of from 20,000 to 25,000 feet, although for purely commercial purposes a height of 6,000 to 10,000 feet is sufficient. The aspirators will be capable of heating the air in the two outer chambers, which will add even more to the buoyancy of the craft.

By a simple operation of the pumps the craft can be held stationary in the air at any height the pilot desires. The cabin of the ship can be loaded or discharged, or passengers taken aboard or let off, by means of a simple elevator. In the same manner fuel can be taken aboard. Its inventor expects the craft to be able to carry passengers between Paris and New York at a cost equivalent to second class railway fare, or about two-thirds of the cost of mileage in America. The time required for the transatlantic flight should not exceed eighteen hours.